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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,737	11/02/2001	Benedicte Bascle	2000P09024 US01	3769

7590

03/01/2005

Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

EXAMINER

ORTIZ RODRIGUEZ, CARLOS R

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/002,737

Applicant(s)

BASCLE ET AL.

Examiner

Carlos Ortiz-Rodriguez

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/26/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lei et al. U.S. Pub. No. 2002/0065635 in view of T. Kesavadas et al. "Interactive Virtual Factory for Shop Floor Design using Cellular Manufacturing Concepts" and in view of Jayaram et al. "Virtual assembly using virtual reality techniques".

Regarding claims 1, 2, 6, 7, 8, and 11-16 Lei et al. discloses a room planning and design system, comprising: a virtual room space comprising a virtual representation of a physical room space (Abstract L8-13 and Page 1 Paragraph 0004); an object library of virtual objects (Fig 3), said virtual objects comprising virtual representations of equipment, machines, and objects that may be placed in a room (Fig 3); a user interface comprising: a first user interface component for selecting said virtual objects from said virtual library and positioning them in said virtual room space (Fig 3 and Page 4 Paragraph 0038); a second user interface component for manipulating the positions and orientations of said virtual objects within said virtual room space (Fig 2 and

Page 4 Paragraph 0039); and a workspace comprising a physical model of said physical room space (Page 3 Paragraph 0036).

But, Lei et al. fails to clearly specify a physical marker objects substantially scaled to said workspace for manual placement and orientation of said markers objects in said workspace, wherein said marker objects further comprise markings thereon that yield identification and orientation information.

However, T. Kesavadas discloses a physical marker objects substantially scaled to said workspace for manual placement and orientation of said markers objects in said workspace, wherein said marker objects further comprise markings thereon that yield identification and orientation information (Fig 5).

Additionally, Jayaram et al. discloses one or more detectors for detecting information regarding the positioning of said marker objects in said workspace and transmitting said information to a visualization module; and said visualization module adapted to receive said information from said detectors and utilize said information for positioning said virtual objects within said virtual room space (Section "Virtual Reality" Paragraph 2).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Lei et al. and combining it with the invention disclosed by T. Kesavadas et al. and Jayaram et al. The results of this combination would lead to video-supported planning of equipment installation and/or room design.

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One of ordinary skill in the art would have been motivated to do this modification in order to provide an environment which gives a person a feeling of “being there” as suggested by Jayaram et al.

Regarding claims 3 and 9 Lei et al. in combination with T. Kesavadas et al. and Jayaram et al. disclose all the limitations of the base claims. Lei et al. in combination with T. Kesavadas et al. and Jayaram et al. further discloses that the physical room space is a factory plant (see T. Kesavadas, Abstract).

Regarding claim 4 and 5, Lei et al. in combination with T. Kesavadas et al. and Jayaram et al. disclose all the limitations of the base claims. Lei et al. in combination with T. Kesavadas et al. and Jayaram et al. further discloses that said physical room space is a medical facility, the virtual objects is an MRI machine and the workspace is a table (see Lei et al. Page 1 Paragraph 0004).

Regarding claim 10 Lei et al. in combination with T. Kesavadas et al. and Jayaram et al. disclose all the limitations of the base claims. Lei et al. in combination with T. Kesavadas et al. and Jayaram et al. further discloses that the detector comprises at least one camera (see Jayaram et al. Section “Virtual Reality” Paragraph 2).

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to video-supported planning of equipment installation and/or room design:

- a. U.S. Pat. No. 6,078,329 to Umeki et al., which discloses virtual object display apparatus and method employing viewpoint updating for realistic movement display in virtual reality.
- b. U.S. Pat. No. 6,097,393 to Prouty, IV et al., which discloses computer-executed, three-dimensional graphical resource management process and system.
- c. U.S. Pat. No. 6,470,301 to Barral, which discloses optimization tool for assembly workcell layout.
- d. U.S. Pat. No. 6,594,623 to Wang et al., which discloses determining three-dimensional orientation of objects.

The following publications are cited to further show the state of the art with respect to video-supported planning of equipment installation and/or room design:

- e. U.S. Pub. No. 2002/0123812 to Jayaram, which discloses virtual assembly design environment.
- f. Wood, Ernest J., "An Object-Oriented SECS Programming Environment", IEEE Transactions on Semiconductor Manufacturing, 1993.

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- g. Pomorski, Tom, "Managing Overall Equipment Effectiveness to Optimize Factory Performance", IEEE, 1997.
- h. Yuan et al., "Mechanical assembly with data glove device", IEEE, 1997.
- i. Fersha, Alois, "Workspace Awareness in mobile virtual teams", IEEE, 2000.
- j. E. Freund et al., "Distributing 3D Manufacturing Simulations to realize the digital plant", Proceedings of the 2003 IEEE International Conference on Robotics & Automation, 2003.
- k. Fernando, Terrance et al., "Software architecture for a constraint-based virtual environment", ACM, 1999.
- l. The CADD GIS technology center, "Spatial data standards/ facility management standards release 2.00", 2000.
- m. Technical Profile, "PlantSpace P&ID", MicroStation Schematics Engineering Configuration, 2001.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is (571) 272-3747. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The central official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (703)308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'C. Ortiz-Rodriguez', written in a cursive style.

Carlos Ortiz-Rodriguez
Patent Examiner
Art Unit 2125

cror

February 22, 2005

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100